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Final Report

Heterocycles as Laser Dyes

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Heterocycles as Laser Dyes: Final Report

Laser activity from pyrromethene-BF₂ complexes and nitro derivatives of benzotriazolo[2,1-a]benzotriazole was discovered and reported.

Certain pyrromethene-BF₂ dyes were superior to rhodamine-6G and thereby became the most power efficient laser dyes known. The results were described in Technical Reports 1, 2, and 4.

Fluorescence was enhanced and laser activity introduced by substitution in benzotriazolo[2,1-a]benzotriazole to give certain nitro derivatives. The results were described in Technical Report 3.

Technical Reports

1. Laser Action from 2,6,8-trisubstituted-1,3,5,7-tetramethyl-pyrromethene-BF₂ complexes: part 2
2. Pyrromethene-BF₂ Complexes as Laser Dyes: 2
3. Luminescent Nitro Derivatives of Benzotriazolo[2,1-a]benzotriazole
4. Laser Dye Spectroscopy of Some Pyrromethene-BF₂ Complexes

Technical Report 1 has been published: J. H. Boyer, A. M. Haag, M.-L. Soong, K. Thangaraj, and T. G. Pavlopoulos, "Laser Action from 2,6,8-trisubstituted-1,3,5,7-tetramethyl-pyrromethene-BF₂ complexes: part 2," Applied Optics, 1991, 30, 3788.

Technical Reports 2, 3, 4 have been accepted for publication:

2. J. H. Boyer, A. M. Haag, G. Sathyamoorthi, M.-L. Soong, K. Thangaraj, and T. G. Pavlopoulos, "Pyrromethene-BF₂ Complexes as Laser Dyes: 2," Heteroatom Chemistry, 1992, 3, xxxx.
3. Q. Lu and J. H. Boyer, "Luminescent Nitro Derivatives of Benzotriazolo[2,1-a]benzotriazole," Heteroatom Chemistry, 1992, 3, xxxx.
4. T. G. Pavlopoulos, J. H. Boyer, K. Thangaraj, G. Sathyamoorthi, M. P. Shah, and M.-L. Soong, "Laser Dye Spectroscopy of Some Pyrromethene-BF₂ Complexes," Applied Optics, 1992, 31, xxxx.

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